



DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2022-0102; Project Identifier MCAI-2021-00841-R; Amendment 39-22024; AD 2022-09-04]

RIN 2120-AA64

Airworthiness Directives; Airbus Helicopters

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: The FAA is superseding airworthiness directive (AD) for 2021-05-05 which applied to all Airbus Helicopters Model SA-365N1, AS-365N2, AS 365 N3, SA-366G1, EC 155B, and EC155B1 helicopters. AD 2021-05-05 required modifying the helicopter by replacing the tail rotor gearbox (TGB) control shaft guide bushes; repetitive inspections (checks) of the oil level of the TGB and, if necessary, filling the oil to the maximum level; repetitive inspections of the TGB magnetic plug and corrective actions if necessary; repetitive replacements of a certain control rod double bearing (bearing); and modifying the helicopter by replacing the TGB. This AD was prompted by a report where during a landing phase, a helicopter lost tail rotor pitch control, which was caused by significant damage to the TGB bearing. This AD retains some of the requirements of AD 2021-05-05, and reduces the intervals of the magnetic plug inspection, revises the corrective actions if particles are detected, and revises the compliance time for replacement of the affected part, as specified in a European Union Aviation Safety Agency (EASA) AD, which is incorporated by reference. The FAA is issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: For EASA material incorporated by reference (IBR) in this final rule, contact EASA, Konrad-Adenauer-Ufer 3, 50668 Cologne, Germany; telephone +49 221 8999 000; email ADs@easa.europa.eu; Internet www.easa.europa.eu. You may find the EASA material on the EASA website at <https://ad.easa.europa.eu>. For Airbus Helicopters and Eurocopter service information identified in this final rule, contact Airbus Helicopters, 2701 North Forum Drive, Grand Prairie, TX 75052; telephone (972) 641-0000 or (800) 232-0323; fax (972) 641-3775; or at <https://www.airbus.com/helicopters/services/technical-support.html>. You may view this material at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy., Room 6N-321, Fort Worth, TX 76177. For information on the availability of this material at the FAA, call (817) 222-5110. Service information that is IBRed is also available in the AD docket at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2022-0102.

Examining the AD Docket

You may examine the AD docket at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2022-0102; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, the EASA AD, any comments received, and other information. The address for Docket Operations is U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

FOR FURTHER INFORMATION CONTACT: Hal Jensen, Aerospace Engineer, Operational Safety Branch, Compliance & Airworthiness Division, FAA, 950 L'Enfant Plaza N SW, Washington, DC 20024; telephone (202) 267-9167; email hal.jensen@faa.gov.

SUPPLEMENTARY INFORMATION:

Background

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to supersede AD 2021-05-05, Amendment 39-21448 (86 FR 13972, March 12, 2021) (AD 2021-05-05). AD 2021-05-05 applied to all Airbus Helicopters Model SA-365N1,

AS-365N2, AS 365 N3, SA-366G1, EC 155B, and EC155B1 helicopters. AD 2021-05-05 required repetitive checks of the oil level of the TGB and if necessary, filling the oil to the maximum level. AD 2021-05-05 also required modifying the helicopter by replacing the TGB control shaft guide bushes; repetitive inspections of the TGB magnetic plug and corrective actions if necessary; repetitive replacements of the bearing; and modifying the helicopter by replacing the TGB. The NPRM published in the *Federal Register* on February 18, 2022 (87 FR 9277). The NPRM was prompted by a report where during a landing phase, a helicopter lost tail rotor pitch control, which was caused by significant damage to the TGB bearing. The NPRM was also prompted by the determination that reduced inspection intervals, updated corrective actions, and a revised compliance time for replacement of affected parts are necessary to address the unsafe condition. Furthermore, the FAA determined that the magnetic plug inspection interval must be reduced based on additional testing of the affected part by the manufacturer, and the compliance time for replacement of the affected part must be reduced.

The NPRM proposed to retain certain actions in AD 2021-05-05; reduce the intervals of the magnetic plug inspection; revise the corrective actions if particles are detected; and revise the compliance time for replacement of the affected part. The NPRM also proposed to allow the oil level inspections (checks) to be performed by the owner/operator (pilot) holding at least a private pilot certificate and must be entered into the aircraft records showing compliance with the proposed AD in accordance with 14 CFR 43.9 (a)(1) through (4) and 14 CFR 91.417(a)(2)(v). The record must be maintained as required by 14 CFR 91.417 or 135.439.

The NPRM was prompted by EASA AD 2021-0171, dated July 19, 2021 (EASA AD 2021-0171), issued by EASA, which is the Technical Agent for the Member States of the European Union, to correct an unsafe condition for Airbus Helicopters (AH), formerly Eurocopter (EC), Eurocopter France, Aerospatiale, Sud Aviation, Model SA 365 N1, AS 365 N2, AS 365 N3, EC 155 B, and EC 155 B1 helicopters, all serial numbers.

The FAA is issuing this AD to prevent damage to the bearing, which if not addressed, could result in loss of yaw control of the helicopter. See EASA AD 2021-0171 for additional background information.

Discussion of Final Airworthiness Directive

Comments

The FAA received no comments on the NPRM or on the determination of the costs.

Conclusion

These helicopters have been approved by EASA and are approved for operation in the United States. Pursuant to the FAA's bilateral agreement with the European Union, EASA has notified the FAA about the unsafe condition described in its AD. The FAA reviewed the relevant data and determined that air safety requires adopting this AD as proposed. Accordingly, the FAA is issuing this AD to address the unsafe condition on these helicopters. This AD is adopted as proposed in the NPRM.

Related Service Information Under 1 CFR Part 51

EASA AD 2021-0171 specifies procedures for modifying the helicopter by replacing TGB control shaft guide bushes, and specifies procedures for repetitive inspections of the oil level of the TGB, and if necessary, filling the oil to the maximum level. EASA AD 2021-0171 also describes procedures for repetitive inspections of the TGB magnetic plug for the presence of particles and updated corrective actions if necessary (corrective actions include removing the TGB; complying with certain work cards to address any particles found, and other conditions such as abrasions, scales, flakes, and splinters; placing the helicopter under close monitoring; and if required replacing any affected bearing); initial and repetitive replacements of the bearing with an improved part; and modifying the helicopter by replacing the TGB bearing or replacing the TGB. EASA AD 2021-0171 specifies replacing the TGB bearing is a terminating action for the repetitive inspections of the magnetic plug; and replacing the TGB is a terminating action for the repetitive inspections of the magnetic plug, and the repetitive

replacements of the bearing. EASA AD 2021-0171 also prohibits installing a certain bearing or a certain TGB on any helicopter.

This material is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

Other Related Service Information

The FAA reviewed Airbus Helicopters Alert Service Bulletin No. AS365-01.00.67 (ASB AS365-01.00.67 Rev 6) and Airbus Helicopters Alert Service Bulletin No. EC155-04A014 (ASB EC155-04A014 Rev 6), both Revision 6, and both dated June 14, 2021. ASB AS365-01.00.67 Rev 6 and ASB EC155-04A014 Rev 6 both specify procedures for replacement of the TGB bearing before mod 07 65B63 installation, inspection of the TGB magnetic plug, removing the control shaft/rod assembly to inspect the bearing, and maintaining the TGB operating oil at the maximum level, and specify the monitoring criteria of the bearing.

The FAA also reviewed Eurocopter Service Bulletin AS365 No. 65.00.17, and Eurocopter Service Bulletin EC155 No. 65-006, both Revision 1 and both dated February 23, 2011. Both service bulletins specify instructions for introducing Eurocopter (EC) mod 07 65B58.

Differences Between this AD and EASA AD 2021-0171

EASA AD 2021-0171 revises the applicability by removing the reference to Model SA 366 G1 helicopters because the EASA type certificate has been surrendered. However, Model SA-366G1 helicopters are still on the U.S. type certificate data sheet, even though there are no current U.S. operators. Therefore, this AD includes Model SA-366G1 helicopters.

Costs of Compliance

The FAA estimates that this AD affects 50 helicopters of U.S. Registry. Labor rates are estimated at \$85 per work-hour. Based on these numbers, the FAA estimates the following costs to comply with this AD:

Estimated costs for retained required actions

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. fleet
Replace guide bushes	4.00 work-hours x \$85 per hour = \$340	\$1,586	\$1,926 per replacement	\$96,300
Daily oil level inspection	1.00 work-hour x \$85 per hour = \$85	\$0	\$85 per inspection cycle	\$4,250
Recurring plug inspection	1.00 work-hour x \$85 per hour = \$85	\$0	\$85 per inspection cycle	\$4,250
Inspect bearing	8.00 work-hours x \$85 per hour = \$680	\$0	\$680 per inspection	\$34,000
Replace bearing	48.00 work-hours x \$85 per hour = \$4,080	\$377	\$4,457 per replacement	\$222,850
Replace TGB	8.00 work-hours x \$85 per hour = \$680	\$155,302	\$155,982 per replacement	\$7,799,100

This AD does not add new required actions; however, the compliance times for certain actions have been reduced and a certain on-condition action has been revised.

Estimated costs of on-condition actions

Labor cost	Parts cost	Cost per product
Up to 4 work-hours \$85 per hour = \$340	Up to \$1,395	Up to \$1,735

According to the manufacturer, some of the costs of this AD may be covered under warranty, thereby reducing the cost impact on affected individuals. The FAA does not control warranty coverage for affected individuals. As a result, the FAA has included all costs in the cost estimate.

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress

charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

This AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Will not affect intrastate aviation in Alaska, and
- (3) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

- 1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

- 2. The FAA amends § 39.13 by:

- a. Removing Airworthiness Directive (AD) 2021-05-05, Amendment 39-21448 (86 FR 13972, March 12, 2021); and

- b. Adding the following new AD:

2022-09-04 Airbus Helicopters: Amendment 39-22024; Docket No. FAA-2022-0102; Project Identifier MCAI-2021-00841-R.

(a) Effective Date

This airworthiness directive (AD) is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

This AD replaces AD 2021-05-05, Amendment 39-21448 (86 FR 13972, March 12, 2021) (AD 2021-05-05).

(c) Applicability

This AD applies to Airbus Helicopters Model SA-365N1, AS-365N2, AS 365 N3, SA-366G1, EC 155B, and EC155B1 helicopters, all serial numbers, certificated in any category.

(d) Subject

Joint Aircraft System Component (JASC) Code 6500, Tail Rotor Drive System.

(e) Unsafe Condition

This AD was prompted by a report where during a landing phase, a helicopter lost tail rotor pitch control, which was caused by significant damage to the tail rotor gearbox (TGB) control rod double bearing (bearing). This AD was also prompted by the determination that reduced inspection intervals, updated corrective actions, and increased compliance time for replacement of affected parts are necessary to address the unsafe condition. The FAA is issuing this AD to prevent damage to the bearing, which if not addressed, could result in loss of yaw control of the helicopter.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Required Actions

(1) For Model SA-365N1, AS-365N2, AS 365 N3, EC 155B, and EC155B1 helicopters: Except as specified in paragraph (h) of this AD, comply with all required actions and compliance times specified in, and in accordance with, European Union Aviation Safety Agency (EASA) AD 2021-0171, dated July 19, 2021 (EASA AD 2021-0171).

(2) For Model SA-366G1 helicopters: Before further flight after the effective date of this AD, accomplish the actions (e.g., modify the helicopter by replacing the TGB control shaft guide bushes, do repetitive inspections of the TGB magnetic plug and applicable corrective actions; do repetitive replacements of a certain bearing; and modify

the helicopter by replacing the TGB) specified in paragraph (g)(l) of this AD using a method approved by the FAA.

(h) Exceptions to EASA AD 2021-0171

(1) Where EASA AD 2021-0171 refers to its effective date, this AD requires using the effective date of this AD.

(2) Where EASA AD 2021-0171 refers to flight hours (FH), this AD requires using hours time-in-service.

(3) Where EASA AD 2021-0171 requires action after the last flight of the day or “ALF,” this AD requires those actions before the first flight of the day.

(4) This AD does not mandate compliance with the “Remarks” section of EASA AD 2021-0171.

(5) Where paragraph (2) of EASA AD 2021-0171 requires inspections (checks) to be done “in accordance with the instructions of Paragraph 3.B.1 of the applicable inspection ASB,” for this AD, those instructions are for reference only and are not required for the actions in paragraph (2) of EASA AD 2021-0171. The inspections (checks) required by paragraph (2) of EASA AD 2021-0171 may be performed by the owner/operator (pilot) holding at least a private pilot certificate and must be entered into the aircraft records showing compliance with this AD in accordance with 14 CFR 43.9 (a)(1) through (4) and 14 CFR 91.417(a)(2)(v). The record must be maintained as required by 14 CFR 91.417 or 135.439.

(6) Where paragraph (5) of EASA AD 2021-0171 specifies “if any discrepancy is detected, as defined in the applicable inspection ASB, before next flight, accomplish the applicable corrective action(s) in accordance with the instructions of Paragraph 3.B.1 of the applicable inspection ASB,” for this AD, a qualified mechanic must add oil to the TGB to the “max” level if the oil level is not at maximum. The instructions are for reference only and are not required for the actions in paragraph (5) of EASA AD 2021-0171.

(7) Where paragraph (6) of EASA AD 2021-0171 refers to “any discrepancy,” for this AD, discrepancies include the presence of particles and other conditions such as abrasions, scales, flakes, and splinters.

(8) Where the service information referred to in EASA AD 2021-0171 specifies to perform a metallurgical analysis and contact the manufacturer if collected particles are not clearly characterized, this AD does not require contacting the manufacturer to determine the characterization of the particles collected.

(9) Although service information referenced in EASA AD 2021-0171 specifies to scrap parts, this AD does not include that requirement.

(10) Although service information referenced in EASA AD 2021-0171 specifies reporting information to Airbus Helicopters, filling in a “particle detection” follow-up sheet, and returning a “bearing monitoring sheet” to Airbus Helicopters, this AD does not include those requirements.

(11) Although service information referenced in EASA AD 2021-0171 specifies returning certain parts to an approved workshop and returning certain parts to Airbus Helicopters, this AD does not include those requirements.

(i) No Reporting Requirement

Although the service information referenced in EASA AD 2021-0171 specifies to submit certain information to the manufacturer, this AD does not include that requirement.

(j) Special Flight Permit

Special flight permits may be issued in accordance with 14 CFR 21.197 and 21.199 provided that there are no passengers onboard.

(k) Alternative Methods of Compliance (AMOCs)

(1) The Manager, International Validation Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the International Validation Branch, send it to the attention of the person identified in paragraph (l) of this AD. Information may be emailed to: 9-AVS-AIR-730-AMOC@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(l) Related Information

For more information about this AD, contact Hal Jensen, Aerospace Engineer, Operational Safety Branch, Compliance & Airworthiness Division, FAA, 950 L'Enfant Plaza N SW, Washington, DC 20024; telephone (202) 267-9167; email hal.jensen@faa.gov.

(m) Material Incorporated by Reference

(1) The Director of the Federal Register approved the incorporation by reference of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless this AD specifies otherwise.

(i) European Union Aviation Safety Agency (EASA) AD 2021-0171, dated July 19, 2021.

(ii) [Reserved]

(3) For EASA AD 2021-0171, contact EASA, Konrad-Adenauer-Ufer 3, 50668 Cologne, Germany; telephone +49 221 8999 000; email ADs@easa.europa.eu; Internet www.easa.europa.eu. You may find the EASA material on the EASA website at <https://ad.easa.europa.eu>.

(4) You may view this service information at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy., Room 6N-321, Fort Worth, TX 76177. For information on the availability of this material at the FAA, call (817) 222-5110. This material may be found in the AD docket at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2022-0102.

(5) You may view this material that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, email fr.inspection@nara.gov, or go to: <https://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued on April 14, 2022.

Lance T. Gant, Director,
Compliance & Airworthiness Division,
Aircraft Certification Service.

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